<u>**AMENDMENTS TO THE CLAIMS**</u>

1-16. (Canceled)

17. (Currently Amended) An error correction method for an error correction code (ECC) block <u>that includes Reed-Solomon-coded data, said error correction method </u>using a plurality of bytes of sub data which comprise error correction codes that are independent from error correction codes of an error correction target code line to configure erasure position information,

the plurality of bytes of sub data including at least a first byte of sub data and a second byte of sub data, said <u>error correction </u>method comprising:

judging whether or not a first byte of main data, which is one of a plurality of bytes of main data of the error correction target code line, and a second byte of main data, which is one of a plurality of bytes of main data of a previous error correction code line, were located between the first and second bytes of sub data before being deinterleaved;

configuring erasure position information of said first byte of main data belonging to the error correction target code line to be identical to erasure position information of said second byte of main data belonging to the previous error correction code line when said judging judges that the first byte of main data and the second byte of main data were both located between the first and second bytes of sub data before being deinterleaved<u>, the erasure position information being obtained from a position polynomial that is calculated at a time of performing Reed-Solomon decoding on the Reed-Solomon-coded data</u>; and

performing error correction on the error correction target code line.

18. (Currently Amended) An error correction method for an error correction code (ECC) block that includes Reed-Solomon-coded data, said error correction method using a plurality of bytes of sub data which comprise error correction codes that are independent from error correction codes of an error correction target code line to configure erasure position information,

the plurality of bytes of sub data including at least a first byte of sub data and a second byte of sub data, said error correction method comprising:

judging whether or not a first byte of main data, which is one of a plurality of bytes of main data of the error correction target code line, and a second byte of main data, which is one of a plurality of bytes of main data of a previous error correction code line, were located between the first and second bytes of sub data before being deinterleaved;

configuring erasure position information of said first byte of main data belonging to the error correction target code line to be identical to erasure position information of said second byte of main data belonging to the previous error correction code line when said judging judges that the first byte of main data and the second byte of main data were both located between the first and second bytes of sub data before being deinterleaved, the erasure position information being obtained from a position polynomial that is calculated at a time of performing Reed-Solomon decoding on the Reed-Solomon-coded data; and

performing error correction on the error correction target code line,

wherein the ECC block includes a plurality of main data areas comprising the plurality of bytes of main data of the error correction target code line and the plurality of bytes of main data of the previous error correction target code line, and a plurality of sub data areas comprising the

4

plurality of bytes of sub data,

wherein the plurality of main data areas include a first main data area and a second main

data area,

wherein the plurality of sub data areas include:

a first sub data area in which the first byte of sub data is located;

a second sub data area in which the second byte of sub data is located; and

a third sub data area in which a third byte of sub data is located,

wherein the first main data area is disposed between the first sub data area and the second

sub data area,

wherein the second main data area is disposed between the second sub data area and the

third sub data area,

wherein the second sub data area is disposed between the first main data area and the

second main data area, and

wherein said error correction target code line extends so as to be located in both of the

first and second main data areas of the ECC block before being deinterleaved.

19. (Currently Amended) An error correction method for an error correction code

(ECC) block that includes Reed-Solomon-coded data, said error correction method using a

plurality of bytes of sub data which comprise error correction codes that are independent from

error correction codes of an error correction target code line to configure erasure position

information,

the plurality of bytes of sub data including at least a first byte of sub data and a second

byte of sub data, said <u>error correction</u> method comprising:

judging whether or not a first byte of main data, which is one of a plurality of bytes of main data of the error correction target code line, and a second byte of main data, which is one of a plurality of bytes of main data of a previous error correction code line, were located between the first and second bytes of sub data before being deinterleaved;

configuring erasure position information of said first byte of main data belonging to the error correction target code line to be identical to erasure position information of said second byte of main data belonging to the previous error correction code line when said judging judges that the first byte of main data and the second byte of main data were both located between the first and second bytes of sub data before being deinterleaved, <u>the erasure position information being obtained from a position polynomial that is calculated at a time of performing Reed-Solomon decoding on the Reed-Solomon-coded data</u>; and

performing error correction on the error correction target code line,

wherein said configuring erasure position information of said first byte of main data utilizes sync data that is located in the ECC block at predetermined intervals.

20. (Previously Presented) An error correction method as defined in Claim 19, wherein said judging judges that the first byte of main data and the second byte of main data do not exist between the first and second bytes of sub data when said first byte of main data is directly subsequent to a byte of sub data or a byte of sync data in a data recording order.

21. (Previously Presented) An error correction method as defined in Claim 20, wherein

said performing error correction performs error correction without using said erasure position

information when an amount of said erasure position information configured in said configuring

of erasure position information is higher than an amount of parity data.

       22. **(Currently Amended)** An error correction method for an error correction code

(ECC) block <u>that includes Reed-Solomon-coded data, said error correction method</u> using a

plurality of bytes of sub data which comprise error correction codes that are independent from

error correction codes of an error correction target code line to configure erasure position

information,

       the plurality of bytes of sub data including at least a first byte of sub data and a second

byte of sub data, said <u>error correction</u> method comprising:

       judging whether or not a first byte of data, which is one of a plurality of bytes of main data

of the error correction target code line, and a second byte of main data, which is one of a plurality

of bytes of main data of a previous error correction code line, were located between the first and

second bytes of sub data before being deinterleaved when the previous error correction code line

had error correction performed thereon by using said erasure position information;

       configuring erasure position information of said first byte of main data belonging to the

error correction target code line to be identical to erasure position information of said second byte

of main data belonging to the previous error correction code line when said judging judges that

the first byte of main data and the second byte of main data were both located between the first

and second bytes of sub data before being deinterleaved, and configuring erasure position

information of every byte of main data of the error correction target code line when the previous

error correction code line had error correction performed thereon without using erasure position information, the erasure position information being obtained from a position polynomial that is calculated at a time of performing Reed-Solomon decoding on the Reed-Solomon coded data; and

       performing error correction on the error correction target code line.

       23. (Currently Amended) An error correction method for an error correction code (ECC) block that includes Reed-Solomon-coded data, said error correction method using a plurality of bytes of sub data which comprise error correction codes that are independent from error correction codes of an error correction target code line to configure erasure position information,

       the plurality of bytes of sub data including at least a first byte of sub data and a second byte of sub data, said error correction method comprising:

       judging whether or not a first byte of data, which is one of a plurality of bytes of main data of the error correction target code line, and a second byte of main data, which is one of a plurality of bytes of main data of a previous error correction code line, were located between the first and second bytes of sub data before being deinterleaved when the previous error correction code line had error correction performed thereon by using said erasure position information;

       configuring erasure position information of said first byte of main data belonging to the error correction target code line to be identical to erasure position information of said second byte of main data belonging to the previous error correction code line when said judging judges that the first byte of main data and the second byte of main data were both located between the first

8

and second bytes of sub data before being deinterleaved, and configuring erasure position information of every byte of main data of the error correction target code line when the previous error correction code line had error correction performed thereon without using erasure position information, the erasure position information being obtained from a position polynomial that is calculated at a time of performing Reed-Solomon decoding on the Reed-Solomon coded data; and

      performing error correction on the error correction target code line,

      wherein the ECC block includes a plurality of main data areas comprising the plurality of bytes of main data of the error correction target code line and the plurality of bytes of main data of the previous error correction target code line, and a plurality of sub data areas comprising the plurality of bytes of sub data,

      wherein the plurality of main data areas include a first main data area and a second main data area,

      wherein the plurality of sub data areas include:

            a first sub data area in which the first byte of sub data is located;

            a second sub data area in which the second byte of sub data is located; and

            a third sub data area in which a third byte of sub data is located,

      wherein the first main data area is disposed between the first sub data area and the second sub data area,

      wherein the second main data area is disposed between the second sub data area and the third sub data area,

      wherein the second sub data area is disposed between the first main data area and the

9

second main data area, and

wherein said error correction target code line extends so as to be located in both of the

first and second main data areas of the ECC block before being deinterleaved.

24. (Currently Amended) An error correction method for an error correction code

(ECC) block that includes Reed-Solomon-coded data, said error correction method using a

plurality of bytes of sub data which comprise error correction codes that are independent from

error correction codes of an error correction target code line to configure erasure position

information,

the plurality of bytes of sub data including at least a first byte of sub data and a second

byte of sub data, said error correction method comprising:

judging whether or not a first byte of data, which is one of a plurality of bytes of main data

of the error correction target code line, and a second byte of main data, which is one of a plurality

of bytes of main data of a previous error correction code line, were located between the first and

second bytes of sub data before being deinterleaved when the previous error correction code line

had error correction performed thereon by using said erasure position information;

configuring erasure position information of said first byte of main data belonging to the

error correction target code line to be identical to erasure position information of said second byte

of main data belonging to the previous error correction code line when said judging judges that

the first byte of main data and the second byte of main data were both located between the first

and second bytes of sub data before being deinterleaved, and configuring erasure position

information of every byte of main data of the error correction target code line when the previous

error correction code line had error correction performed thereon without using erasure position information, the erasure position information being obtained from a position polynomial that is calculated at a time of performing Reed-Solomon decoding on the Reed-Solomon-coded data; and

performing error correction on the error correction target code line,

wherein said configuring erasure position information of said first byte of main data utilizes sync data that is located in the ECC block at predetermined intervals.

25. (Previously Presented) An error correction method as defined in Claim 24, wherein said judging judges that the first byte of data and the second byte of main data do not exist between the first and second bytes of sub data when said first byte of main data is directly subsequent to a byte of sub data or a byte of sync data in a data recording order.

26. (Previously Presented) An error correction method as defined in Claim 25, wherein said performing error correction performs error correction without using said erasure position information when an amount of said erasure position information configured in said configuring of erasure position information is higher than an amount of parity data.

27-36. (Canceled)

37. (Currently Amended) An error correction method for an error correction code (ECC) block that includes Reed-Solomon-coded data, said error correction method using a

11

plurality of bytes of sub data which comprise error correction codes that are independent from error correction codes of an error correction target code line to configure erasure position information,

the plurality of bytes of sub data including at least a first byte of sub data and a second byte of sub data, said error correction method comprising:

judging whether or not a first byte of main data, which is one of a plurality of bytes of main data of the error correction target code line, and a second byte of main data, which is one of a plurality of bytes of main data of a previous error correction code line, were located between the first and second bytes of sub data before being deinterleaved;

configuring erasure position information of said first byte of main data belonging to the error correction target code line to be identical to erasure position information of said second byte of main data belonging to the previous error correction code line when said judging judges that the first byte of main data and the second byte of main data were both located between the first and second bytes of sub data before being deinterleaved, the erasure position information being obtained from a position polynomial that is calculated at a time of performing Reed-Solomon decoding on the Reed-Solomon-coded data; and

performing error correction on the error correction target code line,

wherein the ECC block includes a plurality of main data areas comprising the plurality of bytes of main data of the error correction target code line and the plurality of bytes of main data of the previous error correction target code line, and a plurality of sub data areas comprising the plurality of bytes of sub data,

wherein the plurality of main data areas include a first main data area and a second main

12

data area,

wherein the plurality of sub data areas include:

a first sub data area in which the first byte of sub data is located;

a second sub data area in which the second byte of sub data is located; and

a third sub data area in which a third byte of sub data is located,

wherein the first main data area is disposed between the first sub data area and the second

sub data area,

wherein the second main data area is disposed between the second sub data area and the

third sub data area,

wherein the second sub data area is disposed between the first main data area and the

second main data area,

wherein said error correction target code line extends so as to be located in both of the

first and second main data areas of the ECC block before being deinterleaved, and

wherein said configuring erasure position information of said first byte of main data

utilizes sync data that is located in the ECC block at predetermined intervals.

38. (Currently Amended) An error correction method for an error correction code

(ECC) block that includes Reed-Solomon-coded data, said error correction method using a

plurality of bytes of sub data which comprise error correction codes that are independent from

error correction codes of an error correction target code line to configure erasure position

information,

the plurality of bytes of sub data including at least a first byte of sub data and a second

13

byte of sub data, said <u>error correction</u> method comprising:

judging whether or not a first byte of data, which is one of a plurality of bytes of main data of the error correction target code line, and a second byte of main data, which is one of a plurality of bytes of main data of a previous error correction code line, were located between the first and second bytes of sub data before being deinterleaved when the previous error correction code line had error correction performed thereon by using said erasure position information;

configuring erasure position information of said first byte of main data belonging to the error correction target code line to be identical to erasure position information of said second byte of main data belonging to the previous error correction code line when said judging judges that the first byte of main data and the second byte of main data were both located between the first and second bytes of sub data before being deinterleaved, and configuring erasure position information of every byte of main data of the error correction target code line when the previous error correction code line had error correction performed thereon without using erasure position information, <u>the erasure position information being obtained from a position polynomial that is calculated at a time of performing Reed-Solomon decoding of the Reed-Solomon-coded data</u>; and

performing error correction on the error correction target code line,

wherein the ECC block includes a plurality of main data areas comprising the plurality of bytes of main data of the error correction target code line and the plurality of bytes of main data of the previous error correction target code line, and a plurality of sub data areas comprising the plurality of bytes of sub data,

wherein the plurality of main data areas include a first main data area and a second main

14

data area,

wherein the plurality of sub data areas include:

a first sub data area in which the first byte of sub data is located;

a second sub data area in which the second byte of sub data is located; and

a third sub data area in which a third byte of sub data is located,

wherein the first main data area is disposed between the first sub data area and the second

sub data area,

wherein the second main data area is disposed between the second sub data area and the

third sub data area,

wherein the second sub data area is disposed between the first main data area and the

second main data area,

wherein said error correction target code line extends so as to be located in both of the

first and second main data areas of the ECC block before being deinterleaved, and

wherein said configuring erasure position information of said first byte of main data

utilizes sync data that is located in the ECC block at predetermined intervals.

39-40. (Canceled)